BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work: Improvements to Roads and Asphalting at Maruthi layout Surrounding area Dasarahalli Village in ward No 06 Thanisandra Byatarayanapura Sub Division

DETAILED ESTIMATES

Estimated Cost
Rs. 90.00 Lakh

Office of the
Executive Engineer
BYATARAYANAPURA DIVISION
Bruhat Bangalore Mahanagara Palike
Bangalore

Bruhat Bangalore Mahanagara Palike

Name of Work: Improvements to Roads and Asphalting at Maruthi layout Surrounding area Dasarahalli Village in ward No 06 Thanisandra Byatarayanapura Sub Division

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
1	Removing & Refixing stone slabs of drains and pointing in C.M (1:3) (Page No 27., I.No.5.33 of KPWD S.R 2018-19).								
	Basic rate	105.00							
	6% AW	6.30							
	Sub Total	111.30							
	Near Muniraj House Road	2	132.00	1.50		396.00			
						396.00			
	Deduct 20% damaged					79.20			
						316.80			
	consider 20%					**63.36**	**Sqm**	**111.30**	**7,051.97**
2	KSRRB 300 - Excavation for road, drains and similar works KSRRB 300-1. **Earthwork excavation by manual means** in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3 (P.No-143, I.No-19.1)								
	Basic rate	130.00							
	Area weightage 6%	7.80							
	Sub total	137.80							
	Loading and unloading with Lead 5 km	**69.80**							
	Total	**207.60**							
	Desilt								
	Near Muniraj House Road	2	132.00	0.40	0.40	42.24			
	CC Drain								
	Maruthi Lt								
	9th A cross	2	100.00	1.10	1.00	220.00			
	10th cross	2	87.00	1.10	1.00	191.40			
	11th cross	2	87.00	1.10	1.00	191.40			
	Culvert	5	5.50	1.50	1.00	41.25			
						686.29	**Cum**	**207.60**	**142473.80**
3	Providing granite slabs of selected quality roughly dressed having a size of 7.5 cms thick and fixed in cement mortar (1:6) including fixing curing ete., complete. I.No.5.31.1, Page no 27								
	Basic rate	700.00							
	Area weightage 6%	42.00							
	Total	**742.00**							
	from item no.01 damaged bottom slabs					79.20			
						79.20	**Sqm**	**742.00**	**58,766.40**

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
4	KSRB 4-1.6 ; Providing and laying in position plain cement concrete of Mix 1:2:4 with OPC @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregtes @ 0.53cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No-13,I No-4.6)								
	Basic rate	5422.00							
	6% AW	325.32							
	Sub Total	5747.32							
	For Flagging Course P.C.C								
	Near Muniraju House Road	2	132.00	0.20	0.15	7.92			
	For Flagging Course Coping								
	Near Muniraju House Road	2	132.00	0.15	0.10	3.96			
						11.88	**Cum**	**5747.32**	**68,278.16**
5	KSRB 5-14 : Providing and constructing load bearing wall with solid concrete blocks of size 400x200x200 mm having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 4.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4 I.No.5.26.1, Page no 27								
	Basic rate	962.00							
	Area weightage 6%	57.72							
	Total	**1019.72**							
	Flagging Course								
	Near Muniraju House Road	2	132.00		0.40	105.60			
						105.60	**Sqm**	**1019.72**	**107682.43**
6	KSRRB M2100-10. Providing and laying **Plain cement concrete of mix 1:3:6** with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @ 0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. (P.No-222,I No-27.18)								
	Basic rate	5115.00							
	6% AW	306.90							
	Sub Total	**5421.90**							
	CC Drain								
	Maruthi Lt								
	9th A cross	2	100.00	1.10	0.15	33.00			
	10th cross	2	87.00	1.10	0.15	28.71			
	11th cross	2	87.00	1.10	0.15	28.71			
	Culvert	6	5.50	1.50	0.15	7.43			
						97.85	**Cum**	**5421.90**	**530505.81**

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
7	Providing and laying plain/reinforced **cement concrete for side drains using M20** nominal mix concrete with OPC at 300 kgs. with 20mm and down size granite metal coarse aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, HOM of machinery, curing etc., complete excluding cost of steel as per MORTH specification No. 1500, 1700, 2200. including cost of materials, labour, HOM complete as per specificationsdo- Wall & bottom thickness 15cm (I No-37.59.2,P No-271,KPWD SR 2018-19)								
	Basic rate	6670.00							
	6% AW	400.20							
	Sub Total	**7070.20**							
	CC Drain Raft								
	Maruthi Lt								
	9th A cross	2	100.00	0.90	0.15	27.00			
	10th cross	2	87.00	0.90	0.15	23.49			
	11th cross	2	87.00	0.90	0.15	23.49			
	CC Drain Wall								
	Maruthi Lt								
	9th A cross	4	100.00	0.15	0.60	36.00			
	10th cross	4	87.00	0.15	0.60	31.32			
	11th cross	4	87.00	0.15	0.60	31.32			
						172.62			
	Culvert Raft	5	5.50	1.20	0.20	6.60			
	Culvert Wall	10	5.50	0.23	0.55	6.96			
						13.56			
						186.18	**Cum**	**7070.20**	**1316312.16**
8	KSRRB M2200-6. Providing **T.M.T. steel reinforcement for R.C.C. work** including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200(I No-28.8.2,P No-229)								
	Basic rate	68233.00							
	6% AW	4093.98							
	Sub Total	**72326.98**							
	70kg/cum for drain		172.62	0.07		12.08			
	90kg/cum for culvert		13.56	0.09		1.22			
						13.30	**Tn**	**72326.98**	**962207.40**
9	Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Data rate	2337.00							
	For Drain								
	Maruthi Lt								
	9th A cross	2	100.00	0.90		180.00			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	10th cross	2	87.00	0.90		156.60			
	11th cross	2	87.00	0.90		156.60			
	Near Muniraju House Road	2	132.00	0.90		237.60			
	missing/damaged slab	85	0.60	0.90		45.90			
						776.70	**Sqm**	**2337.00**	**1815147.90**
10	Providing and Fixing **pre cast covering Slab 250mm thick** made out of CC 1:2:4 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge. (Data Rate)								
	Data rate	5418.00							
	Culvert	5	5.50	1.20		33.00			
						33.00	**Sqm**	**5418.00**	**178794.00**
11	KSRRB M300-14. **Excavation for roadwork** in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location to a lead of 1km and complete as per specifications.(I No-19.14,P No-143)								
	Basic rate	41.00							
	Area Weightage 6%	2.46							
	Sub total	43.46							
	with Lead 5 km	**12.80**							
	Total	**56.26**							
	Maruthi Lt								
	9th A cross	1	100.00	6.00	0.25	150.00			
	10th cross	1	87.00	5.60	0.25	121.80			
	11th cross	1	87.00	5.40	0.25	117.45			
	Cross Road	1	104.00	6.00	0.25	156.00			
	Near Muniraju House	1	132.00	5.50	0.25	181.50			
						726.75	**Cum**	**56.26**	**40,886.96**
12	Construction of **granular sub-base Grading-V** as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications Clause 401 of MORTH V Revision.(I No-20.5,P No-153)								
	Basic rate	1882.00							
	Area Weightage 6%	112.92							
	Total	**1994.92**							
	Maruthi Lt								
	9th A cross	1	100.00	1.20	0.150	18.00			
	10th cross	1	87.00	1.20	0.150	15.66			
	11th cross	1	87.00	1.20	0.150	15.66			
	Cross Road	1	104.00	1.20	0.150	18.72			
	Near Muniraju House	1	132.00	1.20	0.150	23.76			
						91.80	**Cum**	**1994.92**	**183133.66**

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
13	KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to **wet mix macadam** specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications(P.No-155,I No-20.18)								
	Basic rate	1888.00							
	Area Weightage 6%	113.28							
	Total	**2001.28**							
	Maruthi Lt								
	9th A cross	1	100.00	6.00	0.250	150.00			
	10th cross	1	87.00	5.60	0.250	121.80			
	11th cross	1	87.00	5.40	0.250	117.45			
	Cross Road	1	104.00	6.00	0.30	187.20			
	Near Muniraju House	1	132.00	5.50	0.250	181.50			
						757.95	**Cum**	**2001.28**	**1516870.18**
14	KSRRB M500-6. Providing and **applying primer coat** with S.S. bitumen emulsion on prepared surface of granular base such as WMM including cleaning of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per specifications Clause 502 of MORTH V revision(P.No-158,I No-21.6)								
	Basic rate	27.00							
	Area Weightage 6%	1.62							
	Total	**28.62**							
	Maruthi Lt								
	9th A cross	1	100.00	6.00		600.00			
	10th cross	1	87.00	5.60		487.20			
	11th cross	1	87.00	5.40		469.80			
	Cross Road	1	104.00	6.00		624.00			
	Near Muniraju House	1	132.00	5.50		726.00			
						2907.00	**Sqm**	**28.62**	**83,198.34**
15	Providing and laying **bituminous concrete 40mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4 % of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic)(P.No-171,I No-21.78.12)								
	Basic rate	7315.00							
	Area Weightage 6%	438.90							
	Total	**7753.90**							
	Maruthi Lt								
	9th A cross	1	100.00	6.00	0.04	24.00			
	10th cross	1	87.00	5.60	0.04	19.49			
	11th cross	1	87.00	5.40	0.04	18.79			
	Cross Road	1	104.00	6.00	0.04	24.96			

Sl No	Description of Items	No	Length	Width	Depth	Quantity	Unit	Rate	Amount
	Near Muniraju House	1	132.00	5.50	0.04	29.04			
						116.28	**Cum**	**7753.90**	**901623.49**
16	KSRRB M800-13.**Road Marking** with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803(P.No-182,I No-24.15)								
	Basic rate	429.00							
	Area Weightage 6%	25.74							
	Total	**454.74**							
	Maruthi Lt								
	9th A cross	2	100.00	0.10		20.00			
	10th cross	2	87.00	0.10		17.40			
	11th cross	2	87.00	0.10		17.40			
	Cross Road	2	104.00	0.10		20.80			
	Near Muniraju House	2	132.00	0.10		26.40			
						102.00	**Sqm**	**454.74**	**46,383.48**
								Total Construction Cost	**7959316.13**
								12% GST	**955117.94**
								PMC Charges	**85,000.00**
								Sub Total	**8999434.07**
								Miscellaneous & Rounding off	**565.93**
								GRAND TOTAL	**9000000.00**

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019, Data Rates and issue rates Dated 03-01-2020

Assistant Engineer,
Ward no 06

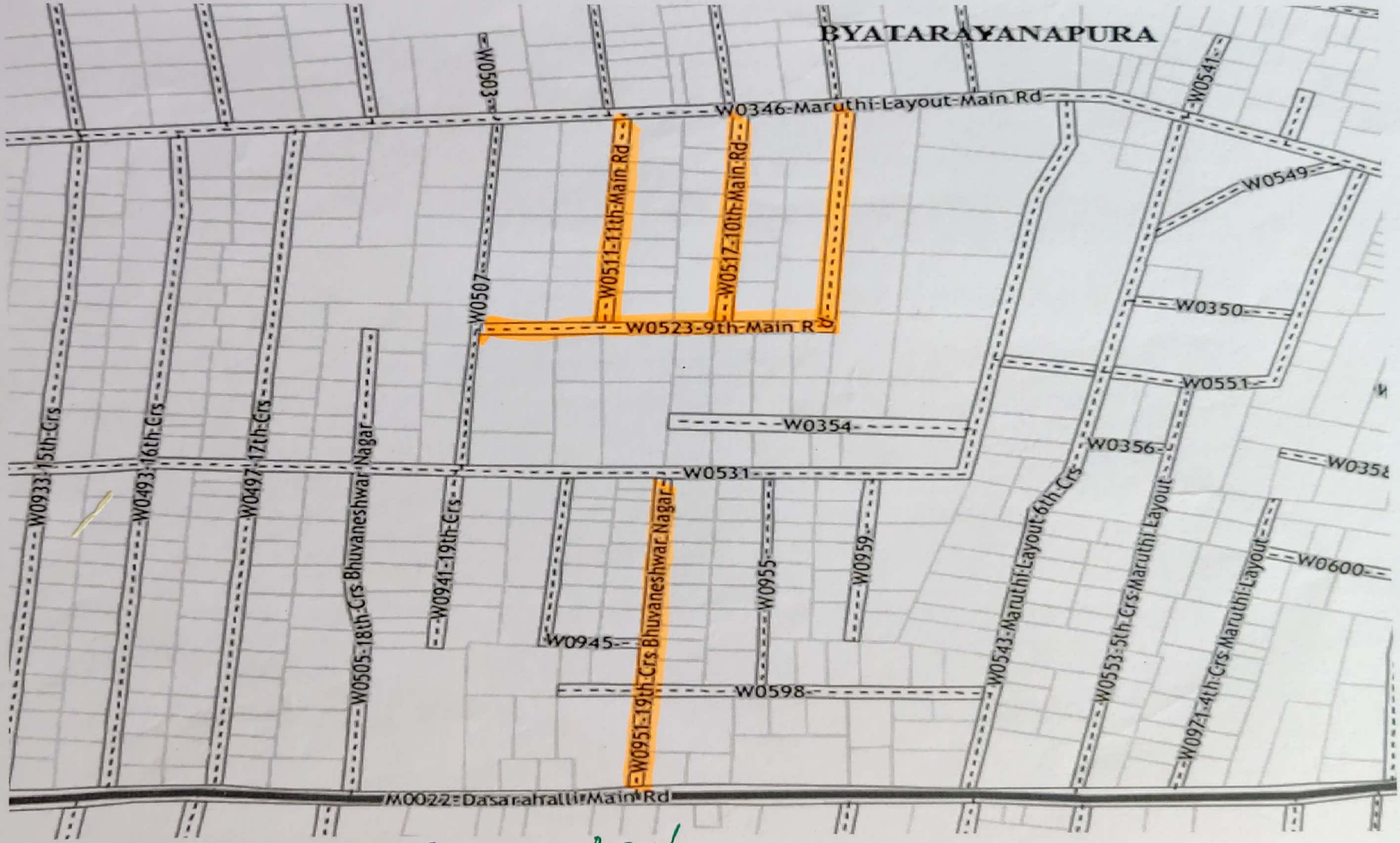
Asst. Exec. Engineer,
Dasarahalli Sub Division

Executive Engineer, 17.23/03
Byatarayanapura Division

ADMINISTRATIVE APPROVAL
Accorded For Rs. 90.00 Lakhs.
Head of A/c. P3726
Div. Ref. No. 11/2020-21 Date. 02/06/2020
AE 2/06
EE(BTP) 2/06

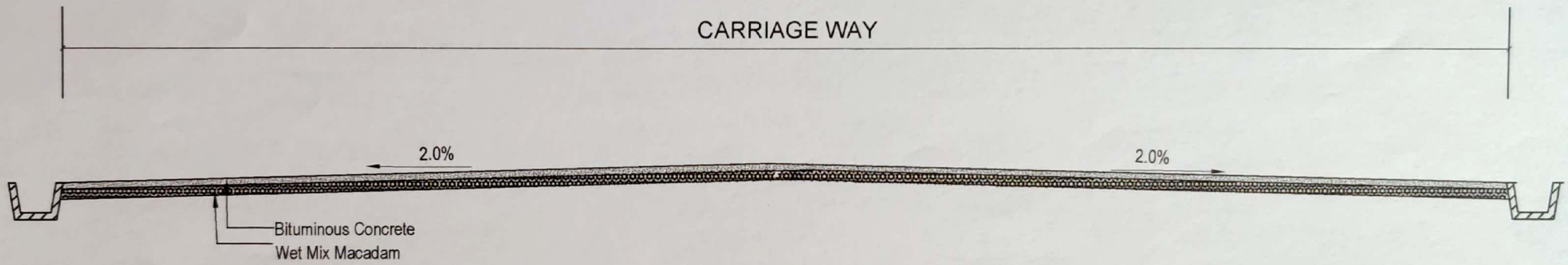
Technically sanctioned for Rs. 90,00,000/-
Rs in Words NINETY LAKH ONLY
Under P 3726
Job Code No. 006-20-000177
Registered as CE(Y)/TS/ 01 / 2021
to conditions contained in enclosed memo
No. 01 / 20-21 Dated: 2/6/2020
2/6/2020

Name of Work: Improvements to Roads and Asphalting at Maruthi Layout Sarrounding area Dasarahalli Village in Ward No. 06 Thanisandra Byatarayanapura Sub Division.

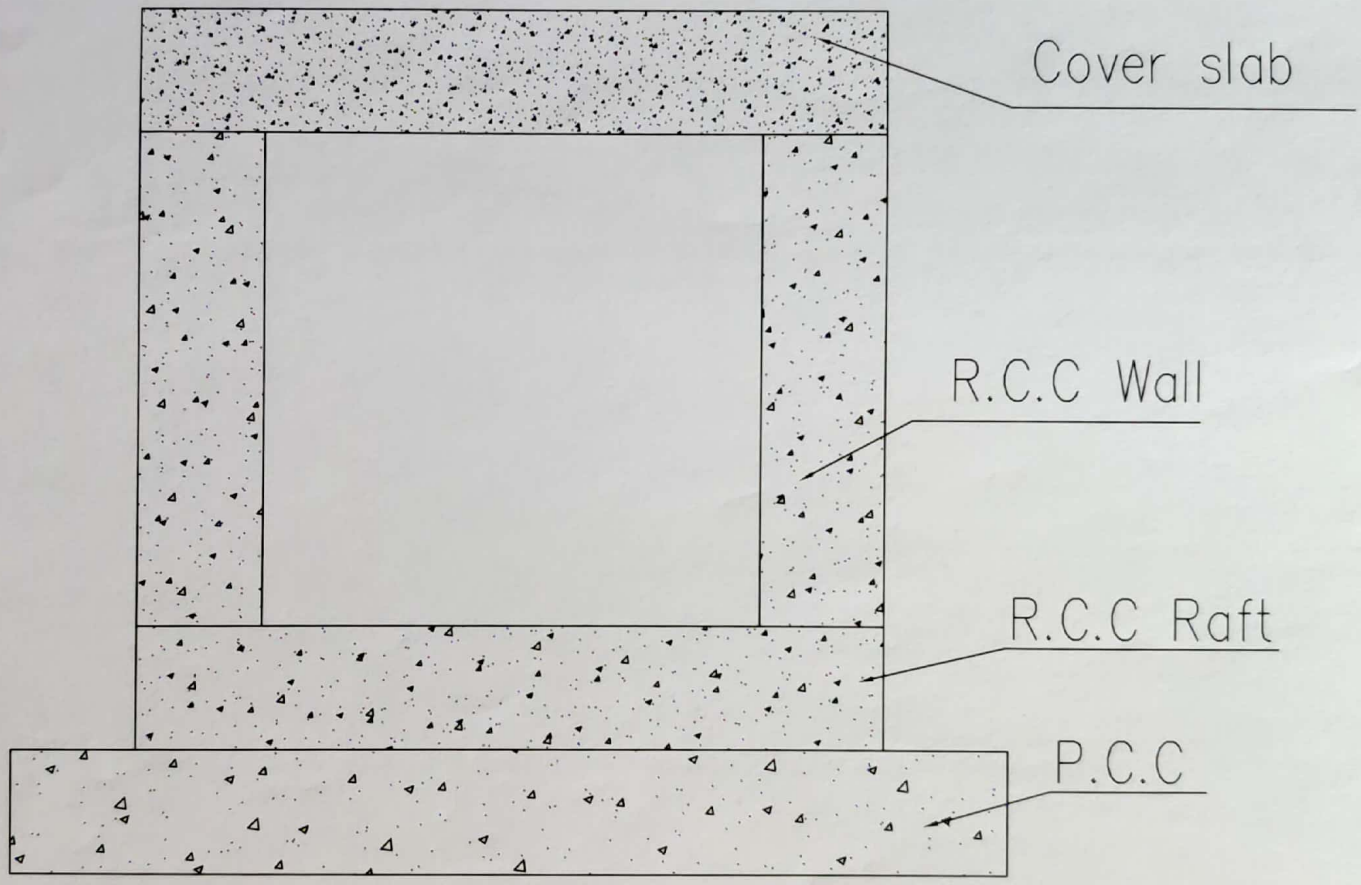


Raghu

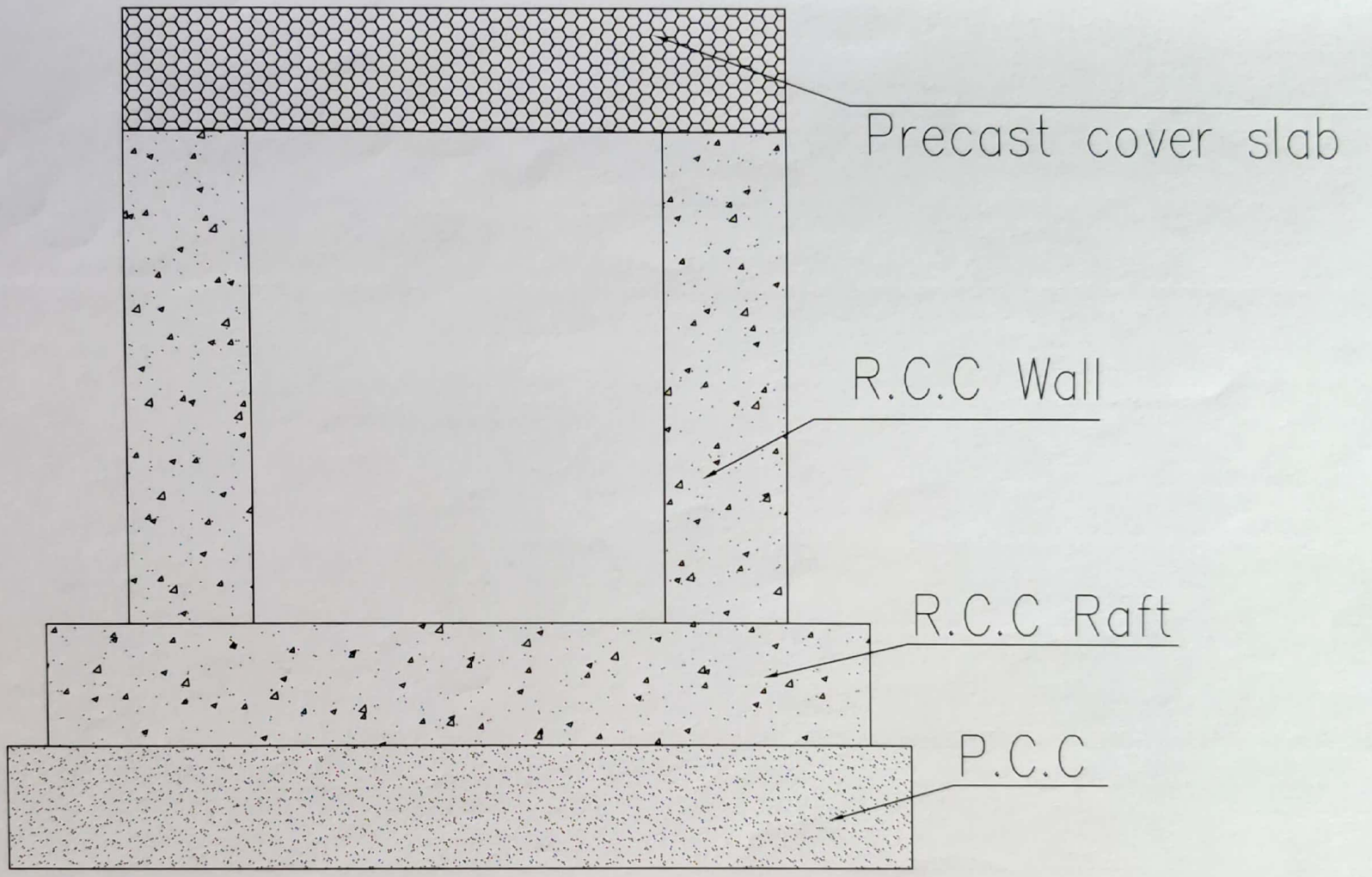
CLIENT: BRUHAT BANGALORE MAHANAGARA PALIKE		Assitante Engineer	Assitante Executive Engineer	Executive Engineer	Improvements to roads and Asphalting at Maruthi layout surrounding area Dasarahalli Village in ward no 06 Thanisandra Byatarayanapua sub Division Dwg no: Rev: R0 Date



Proposed typical Cross section of Asphalt Road

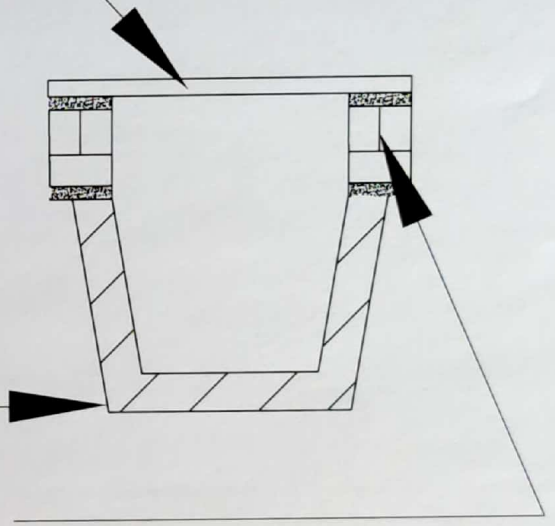


CROSS SECTION OF RCC DRAIN



TYPICAL CROSS SECTION OF RCC CULVERT

Cover Slab



Existing B.S.Slab Drain

Solid block Flagging Course